

**J.J. van Aartsen\***

EUROPEAN PYRAMIDELLIDAE: IV. THE GENERA *EULIMELLA*,  
*ANISOCYCLA*, *SYRNOLA*, *CINGULINA*, *OSCILLA* AND *CARELIOPSIS*\*\*

The species to be dealt with in the present part of this series belong to a number of different genera in the Pyramidellidae. They all possess slender shells of many whorls and only very few of them have pronounced sculpture. Most species have apparently smooth shells with or without microscopic spiral striature. Some have somewhat more pronounced spiral sculpture, but axial sculpture properly speaking does not occur. In one case there are more or less regular axial folds which together with the regular spiral striae form some sort of decussation. This is true for the genus *Careliopsis* Moersch, 1875, only one representative of which lives in our area.

Very pronounced spiral ribs, such as occur in *Cingulina* A.Adams, 1860 and *Oscilla* A.Adams, 1861 are known only for two species of Indo-pacific origin viz. *Cingulina isseli* Tryon, 1886 and *Oscilla jocosa* Melvill, 1904.

The smooth, or nearly so, European species have traditionally been placed in *Eulimella* or *Syrnola* depending on the fact whether they lack a columellar tooth or fold or such a feature is present. It is my strong belief, however, that a fold on the columella is not enough to place species in *Syrnola*.

The genus *Syrnola* A.Adams, 1860 with type species *Syrnola gracillima* A.Adams, 1860 by monotypy, is described by its author (1860: 405) as follows «Testa subulata, recta, vitrea, polita; anfractibus planis; suturis impressis. Apertura oblonga; labio in medio plica obliqua instructo; labro simplici, acuto.

The genus bears the same relation to *Obeliscus* that *Chrysallida* does to *Pyramidella*, and will include all the slender species of the former group with a single plait on the columella ...». And in the description of the species *Syrnola gracillima* A.Adams it is stated (l.c.: 405): «...labio antice expanso et reflexo, in medio plica obliqua valida instructo; ...».

The specimen of *S.gracillima* mentioned by BOYD & PHILLIPS (1985: 62) as a possible type, which I could study thanks to the kind cooperation of Ms.Boyd, does not correspond to the description, especially not because there is no sign of any tooth. Also the topwhorls are missing so this specimen cannot help us in defining the genus *Syrnola*. As there appears to be no other type material we can only base our conclusions on the written evidence cited above.

\* Adm.Helfrichlaan 33, 6952GB Dieren, The Netherlands.

\*\* Lavoro accettato il 10 settembre 1994.

From this description it can only be concluded that one clearly pronounced tooth on the columella is to be found in species of the genus *Syrnola*. This is true for one European species only viz. *Syrnola wenzii* Nord-sieck, 1972 [= *Odostomia crassa* Jeffreys, 1884 non Thompson, 1845]. On this basis the Indo-pacific immigrant species *Syrnola fasciata* Jickeli, 1882 is a genuine *Syrnola* too.

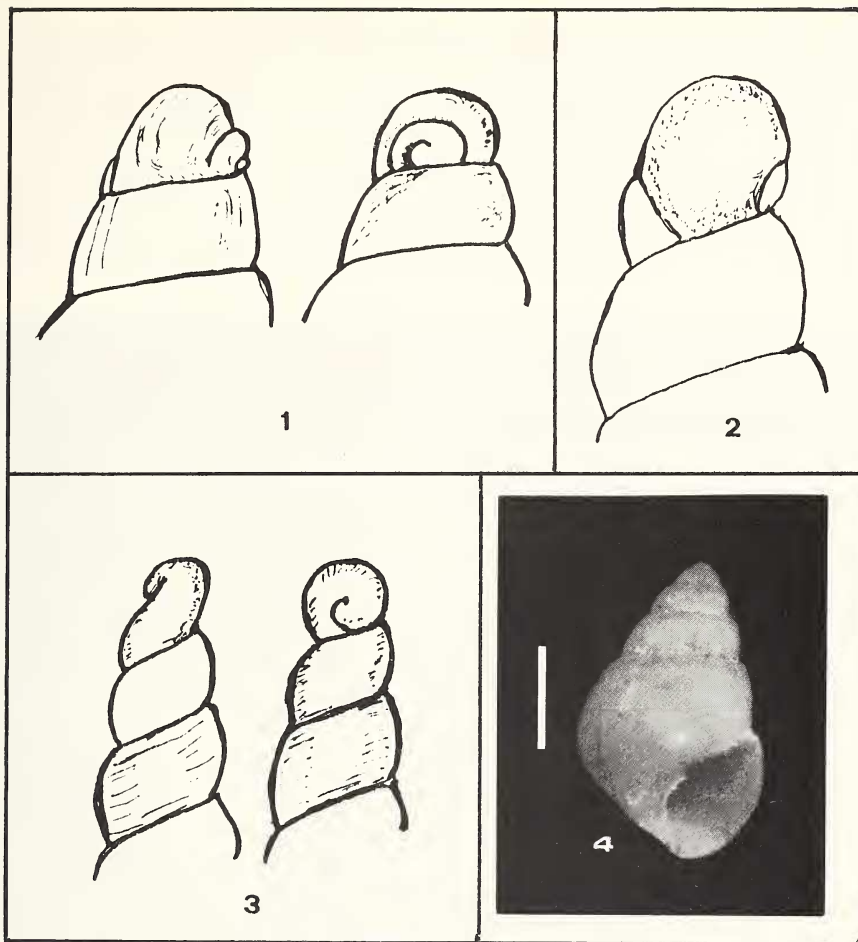
The species *Orina pinguicula* A.Adams, 1870 described from the Gulf of Suez, was characterized as «like a short umbilicated *Syrnola*». For this species A.Adams (1870: 126) erected the genus *Orina* which was renamed *Orinella* Dall & Bartsch, 1904 because of the already existing *Orina* L.Agas-siz, 1846. As *Syrnola fasciata* Jickeli, 1882 does show an umbilicus it was interesting to study the species *Orinella pinguicula*, which has never been figured. Thanks to the kind cooperation of Dr.Preece who is in charge of the MacAndrew collection in Cambridge, I could study the one and only specimen of this species.

From the figure published here (fig.4) it can already be seen that this specimen makes the impression of a malformation: a very big umbilicus, a stumpy form, one pronounced tooth on the columella and teeth on the inside of the outer lip. It seems noteworthy too that no author ever mentioned the collection of this species: all citations in the literature refer to the specimen described by A.Adams.

On the one hand I personally should hesitate to found a genus on one such specimen whereas on the other hand in my opinion the presence or absence of an umbilicus in itself is not enough to place these species in a separate genus.

In conclusion I cannot recognize the genus *Orinella* Dall & Bartsch, 1904 and certainly do not use it for the umbilicated species *Syrnola fasciata* Jickeli 1882.

Still an other related genus is *Ptycheulimella* Sacco, 1892 which is described as «Testa turrity-pyramidata. Anfractibus planulati, ultimus saepe plus minusque subangulatus. Apertura ovato-quadrangula vel rhomboidalis. Columella superne, depresso, transverse uniplicata». This description suits *Syrnola* perfectly and so it is not clear why this genus should be different. Sacco (1892: 59) writes further «...forme che sembrano avvicinarsi molto alle *Eulimella*, ma presentano però una piega columellare più o meno marcata che diventa meno visibile presso il peristoma. Tali forme per detto carattere si avvicinano quindi molto alle *Macrodostomia* ed alle *Syrnola*, ma non mi pare che si possano attribuire senz'altro a questi sottogeneri.» As *Ptycheulimella* is based on *Tornatella pyramidata* Deshayes, 1835, a fossil shell from Morea (Greece), which is figured without a noticeable columellar tooth by its author, DESHAYES (1835: 154, pl.24 fig.29-31), and which I could not study, it is not clear what *Ptycheulimella* is meant to cover. In view of the fact that MONTEROSATO (1884: 98; 1890: 158) considers *Tornatella pyramidata* synonymous with *Melania scillae* Scacchi, 1835, a species of *Eulimella* without any form of dentation on the columella, it seems at least not sure that *Ptycheulimella* should be considered as a valid genus.



From all authors who studied *Eulimella* species we learn that in one and the same species a columellar fold is sometimes present and sometimes absent. A good summary for some of our European species is given by FRETTER, GRAHAM & ANDREWS (1986: 624-628). The conclusion, therefore, can only be that such species as *Odostomia praelonga* Jeffreys, 1884 and *Eulima unifasciata* Forbes, 1844 should be placed in *Eulimella* Forbes & MacAndrew, 1846 although Sacco's genus *Ptycheulimella* may have been meant for these *Eulimella* species where a columellar fold occurs rather frequently.

As demonstrated several years ago by me (1988: 171) the genus *Eulimella* Forbes & MacAndrew, 1846 has *Eulima macandrei* Forbes, 1844 as its type species by monotypy. At the same time Forbes' species is universally considered a junior synonym of *Melania scillae* Scacchi, 1835. It is the recent shell on which the genus is based however.

The species of the genus *Eulimella* are slender shells with many whorls, either completely smooth or with microscopic spiral sculpture. Not particularly thin or fragile and with heterostrophic embryonic whorls of helicoid or planorbic type, tightly coiled as in *Turbonilla* (see figures 1 and 2).

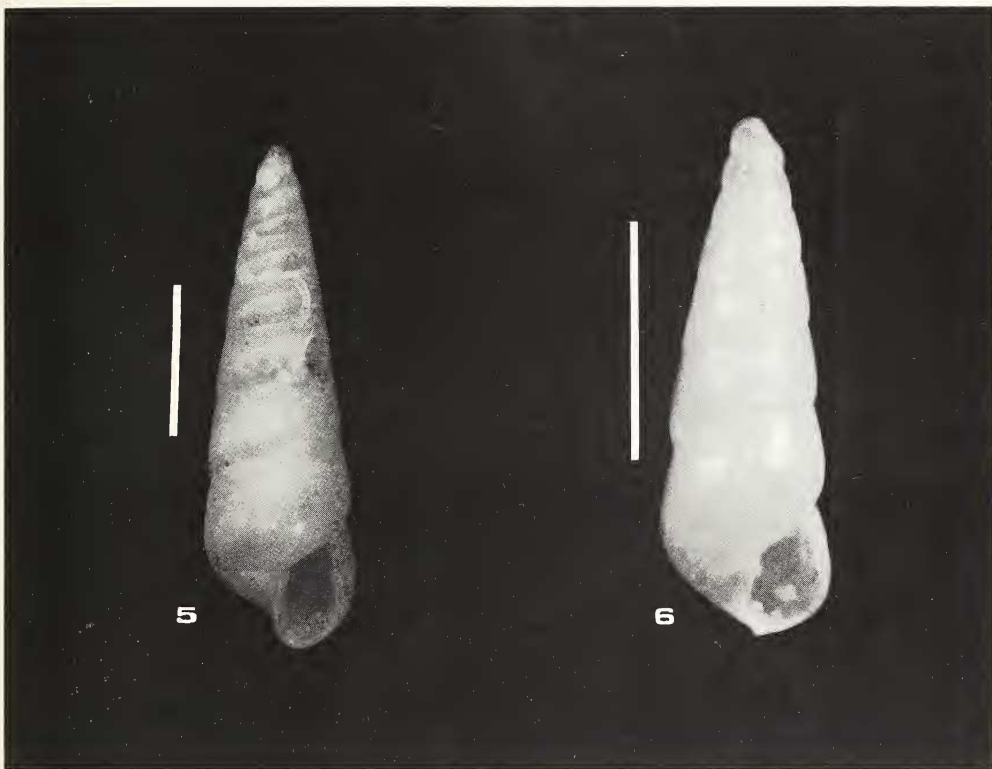
A few very small species, extremely fragile and with more or less swollen whorls show a protoconch of a quite different type: loosely coiled of only 1-1.5 whorl (see figure 3). These shells are here placed in the genus *Anisocyclus* Monterosato, 1880. Following GOUGEROT & FEKI (1980: 89) and VAN AARTSEN et al. (1984: 50) I regard *Aciculina scalarina* Deshayes, 1861 as the type species of this genus by subsequent monotypy. As the genus was introduced for *Aciculina Deshayes*, 1861 non A. Adams, 1853 and Deshayes did not mention *Turbo nitidissimus* Montagu, 1803 that recent species cannot be the type species of *Anisocyclus* Monterosato, 1880 although it has been mentioned as such by COSSMANN (1921: 307), THIELE (1929: 236) and WENZ (1940: 866).

The (recent) species of the genus *Anisocyclus* have been dealt with by GOUGEROT & FEKI (1981) not long ago. However the work by these authors in my opinion is based on a too restricted definition of the species. In my experience the variability within the species is rather wide for all Pyramidellidae. Therefore quite a number of varieties or subspecies are here considered to belong to the variation-breadth of the species. This is particularly true with respect to *Anisocyclus pointeli* (De Folin, 1868) which has more or less convex whorls, is more or less slender, has shouldered whorls or subturreted ones a.s.o.

A special problem is formed by a number of species which were described by DE FOLIN in 1870 from the West African Coast (Bay du Levrier and Cagnabac/Senegal). Note the errors in the years of publication as given by GOUGEROT & FEKI (1981)! These authors think to have recognized these species in some specimens from Tunisia or the Libanese coast. Although the authors studied the De Folin type material I still have great doubts. The type material in the De Folin collection in Paris, that I could study thanks to the kind cooperation of Dr. Bouchet, is rather poorly preserved. The species *Eulimella striata* and *Eulimella tenuis* belong without doubt to the *A. pointeli/nitidissima* complex and are considered as variety and subspecies of *A. pointeli* by Gougerot & Feki. *Eulimella levissima* in my opinion is a species of *Cima* Chaster, 1896 (Aclididae). I am not sure about *Eulimella gracillima* as the type has been lost, but the species seems related to *A. pointeli* too.

In preparing this contribution I came upon several species which are new to science. Two of these are described here. Several other species are represented by one or two specimens only. In such cases I have refrained from describing these as new species too because I prefer to wait until more material will be available. This is especially true as ample material from the Atlantic Islands (Canary Isl., Madeira, Azores) and the West African coast shows several species which apparently also occur along the Strait of Gibraltar and in the Alboran Sea, albeit rather rare. These species have not been dealt with here. Neither are the species described by DAUTZENBERG (1889) and by DAUTZENBERG & FISCHER (1896, 1897) from the

Azores taken into account. These belong to a different faunal province and do not occur along the Atlantic coasts of Europe nor in the Mediterranean. Identifications with such species as *Eulimella schlumbergeri* Dautzenberg & Fischer, 1896 and *Eulimella phaula* Dautzenberg & Fischer, 1896 by Nord-sieck proved to be erroneous. As it is not always easy to ascertain the correct year of publication of a species I stress the fact that thorough bibliographical research had already been carried out in many cases. This is true for the work of De Folin in particular, which was studied by WINCKWORTH (1941) and additional facts given by RHEDER (1946).



### Systematic Part

In the following I will first describe the two *Eulimella* species considered to be new to science. Subsequently follow a number of identification tables (=Keys) with notes on most of the species dealt with. This is along the same lines as former parts of this series eg. VAN AARTSEN (1977, 1981 and 1987). As stressed before these tables or keys can only be used for well preserved full-grown shells. Even then it is not always easy to discriminate between two closely related species. In the notes more differentiating properties are usually mentioned and with the help of the photographs it should be possible to identify most specimens with confidence.

The descriptions of the new species are as follows.

*Eulimella bogii* spec.nov. (fig.5)

Shell forming an elongated cone with perfectly straight sides. The colour is whitish without any colour bands. The embryonic whorls are of planorbid shape with their axis at about 135° to the main shell axis. The teleconch-whorls are perfectly flat and number about seven. The growthlines are opisthoclinal and there is a microsculpture of very fine spirals, just as in *Eulimella acicula*. The columella is straight and without a tooth or fold. Length 3-3.2 mm. Breadth 1.0 mm.

This species is most like *E.acicula* (Philippi, 1836) and has also microscopical spiral striature but differs fundamentally from that species by its planorbid embryonic whorls whereas these whorls in *E.acicula* are helicoid with their axis at 90° to the shell axis. *E.bogii* also has some analogy with *E.unifasciata* (Forbes, 1844) But that is a bigger shell with a much greater protoconch and of course its golden-yellow spiral colour band marks it off immediately.

The species is named after Cesare Bogi, able malacologist of Livorno and friend of the author.

Holotype: originating from Isola Capraia (-100/200m) (Italy)

Paratypes: 1 spec.from St.Gallura (-150m) in BMNH;  
1 spec.from in USNM;  
3 spec.from Isola Capraia (-100/200m) and one spec.from St.Gallura in collection Bogi, Livorno, Italy; 3 spec.from La Herradura (S.Spain) (-16m): in collection Anselmo Peñas, Madrid and collection José Luis Martínez, Rueda-Fuengirola; and 2 spec. from Gaeta (-10m) Italy (AD14615, 14531A), 3 spec.Sardinia K1 (-200m) (AD12344, 15881), 2 spec.Capo Corso (-150/200m) (AD11975), 2 spec.Isola Capraia (-100/200m) (AD23347, 23399), 1 spec.from Central Tyrrhenian Sea (-250m)(AD14185) and 1 spec.+2 fragm.from Capo Ferro (-60m)(AD15930) in my own collection.

*Eulimella cossignanii* spec.nov. (fig.6)

Shell forming a very elongated cone with somewhat cyrto-conoid top. The colour is white or glassy-transparent. The embryonic whorls are planorbid with their axis at 135° to the main shell axis. The teleconch whorls are slightly convex with a tendency to have the greatest convexity just above the lower suture; the number of whorls is about six, not counting the embryonic ones. The growthlines are slightly opisthoclinal and there is no spiral microsculpture.

Many growthlines are crowded together in some places and form a sort of axial microsculpture. The shell looks rather solid and not very thin. The columella is straight without a fold or tooth. Length 2.3 mm, breadth 0.75 mm.

This species differs from some forms of *E.acicula* by the absence of spiral microsculpture and the planorbid embryonic whorls. In this respect *E.cossignanii* is much more like *E.ventricosa* (Forbes, 1844). However in that species the whorls are much more convex, the growthlines have a

tendency to prosocline and the shell is much thinner altogether. Also most forms of *E.ventricosa* are more slender.

The species is named after T.Cossignani and V.Cossignani for their efforts to promote malacology by exhibition and presentation in Cupra Marittima (AP), Italy.

Holotype: in NNML no. 56934

Originating from Isola di Vendicari, (-32m) (Italy).

Paratypes: 1 spec.from Malta (-29m) in BMNH;  
 1 spec.from Isola di Vendicari (-32m) in USNM;  
 1 spec.each from Is.Vendicari (-32m), from Aci Trezza (-80/90m) and Capo Spartivento (-400m) in collection Bogi, Italy; 9 spec from Fuengirola (16/-22m): 3 each in collection Anselmo Peñas, Madrid, collection José Luis Martinez, Rueda-Fuengirola and collection John van Aartsen (AD26347); 1 spec.from Algeciras in collection Menkhorst, Netherlands and 3 spec.Is.Vendicari (-32m) (AD19091, 20948), 1 spec. +1 fragm.Algeciras (AD17591, 17674A), 2 spec. Monaco (-100m) (AD19619, 19617), 1 fragm.Banyuls (S.France) (AD12848), 5 fragm.Isola Capo Passero (-25m) (AD18913), 1 spec.Catania (Sicily) (AD16425), 1 spec.south of Elba (AD23160), 1 spec.Is.Porto Palo (AD16988), 1 spec.+ 1 fragm.Malta (-29m) (AD22875) in my own collection.

We now turn our attention to the keys, first to sort out some species and isolate some genera, which in later keys will be differentiated into the respective species.

**I. Key to the genera and some selected species.**

- |      |   |  |
|------|---|--|
| 1.a. | Spiral sculpture consisting of very pronounced spiral ribs                        | 2  |
| b.   | Spiral sculpture fine, but clearly visible  | 3  |
| c.   | Spiral sculpture microscopical or totally absent                                  | 4  |
| 2.a. | Topwhorls helicoid, no tooth on the columella                                     | <i>Cingulina isseli</i><br>Tryon, 1886         |
| b.   | Topwhorls more or less intorted, a clear columellar tooth is present              | <i>Oscilla jocosa</i><br>Mellvil, 1904         |
| 3.a. | Besides spiral sculpture, some axial folds are also frequently present. Topwhorls | <i>Careliopsis modesta</i><br>(De Folin, 1870) |
| b.   | Shells very fragile, with loosely coiled topwhorls                                | <i>Anisocycla</i>                              |
| 4.a. | A pronounced columellar tooth is present  | <i>Syrnola</i>                                 |
| b.   | The columella shows a slight fold at most, or, frequently, no fold at all         | 5  |
| 5.a. | Topwhorls tightly coiled (figs.1, 2); shells not very fragile                     | <i>Eulimella</i>                               |
| b.   | Topwhorls loosely coiled(fig.3); shells rather fragile and needle-shaped          | <i>Anisocycla</i>                              |

*Cingulina isseli* Tryon, 1886 and *Oscilla jocosa* Melvill, 1904.

Both species show three very coarse spiral ribs per whorl, between which the elevated or rather thickened growthlines can be seen as axial striature. The main difference is the columellar tooth which is clearly present in *Oscilla* and absent in *Cingulina*.

The species *Cingulina isseli* Tryon, 1886 (fig.7), known from the Red Sea, was first indicated from the Mediterranean coast of Israel by VAN AARTSEN & CARROZZA (1983). Since then it has been found regularly along the Israeli coast, the coast of Libanon according to BOGI & KHAIRALLAH (1987: 55) as well as the southern coast of Turkey, westward up to Kizkalesi according to VAN AARTSEN, BARASH & CARROZZA (1989: 71).

The other species viz. *Oscilla jocosa* Melvill, 1904 (fig.8) is not known from the Red Sea but was first described from the Gulf of Oman. The species was first noted from the Israeli coast in 1984 and identified as most probably belonging to Melvill's taxon. More particulars are given by VAN AARTSEN, BARASH & CARROZZA (1989: 71).

In my experience *Oscilla jocosa* is rather rare and only a few specimens are known from the Mediterranean.

*Careliopsis modesta* (De Folin, 1870) (fig.9)

A special genus for this species seems very appropriate. Fine spiral sculpture combined with an occasional slightly prosocline growthline sometimes even leads to a kind of reticulate sculpture.

The embryonic whorls which are planorbid with their axis at 135° as well as the mouth and columella without teeth indicate a strong affinity with *Eulimella*. Therefore I think it best to place this species in *Careliopsis* Moersch, 1875 originally erected for a Caribbean species which I do not know but which is well figured by THIELE (1929: 236 fig.243).

Identification of this species is based on USNM133525 from Greece (ex Chaster) because the holotype and only specimen was broken and could not even be figured according to KISCH (1959: 102). Identical specimens from Cagliari under the name *modesta* are present in the Monterosato collection in Rome.

The present species has been published from the Central Tyrrhenean Sea by BOGI (1987: 240, 241 fig.5). Other localities where this species has been found are: Spain (Llanza, Costa Brava); French Mediterranean Coast: Sausset les Pins, La Capte, Plage de l'Estagnol, St.Tropez, Cabasson; Corse: Palombaggia and Pinarello; Sicily: San Lorenzo and Siracusa; Cyprus: Paphos and Famagusta Bay. Thus *Careliopsis modesta* is distributed throughout the Mediterranean.



## II. Key to *Syrnola* and *Anisocyclus* species.

- 1.a. A clearly developed tooth on the columella present 2  
b. No columellar teeth are present 4
- 2.a. inside of outer lip smooth, shell slender,  
occasionally with a golden-yellow band *Puposyrnola minuta*  
(H.Adams 1869)
- b. Inside of outer lip with at least a few teeth;  
shells more conical and occasionally banded  
with more than one brown band 3
- 3.a. Shell conical, inside of the outer lip with only  
a few teeth. A pronounced umbilicus is  
usually present. *Syrnola fasciata* Jickeli, 1882
- b. Shell cylindrical, inside of the outer  
lip with five or more teeth. [No complete  
specimens known, only fragments exist] *Syrnola wenzii*  
Nordsieck, 1972
- 4.a. Shell surface smooth, whorls more or less  
convex, sometimes shouldered, growth-  
lines somewhat prosocline *Anisocyclus pointeli*  
(De Folin, 1868)
- b. Shell surface regularly spirally striated 5
- 5.a. Whorls very much swollen, regularly curved.  
Growthlines C shaped, orthocline to slightly  
opisthocline *Anisocyclus nitidissima*  
(Montagu, 1803)
- b. Whorls flat over most of their height,  
clearly turreted at the upper suture.  
Apart from spiral sculpture, also fine  
axial threads can be seen on well  
preserved specimens *Anisocyclus striatula*  
(Jeffreys, 1856)

*Puposyrnola minuta* (H. Adams, 1869) (fig. 10).

This very characteristic shell has a decidedly pupoid form and is therefore placed in the genus *Puposyrnola* Cossmann, 1921, the type-species of which is the fossil *Auricula acicula* Lamarck, 1804.

Although originally described as possessing a golden-yellow band on the whorls, this band usually cannot be detected in dead shells, even if they look very fresh.

*Syrnola wenzi* Nordsieck, 1972

Originally described by Jeffreys (1884: 350) as *Odostomia crassa* but that name had been used by Thompson already in 1845. Therefore Nordsieck (1972: 117 spec.2.020) renamed the present species *Syrnola wenzi*.

No complete specimens of this species are known. No fragments with preserved topwhorls are known either. The best fragments are probably those in lot BMNH 1885.11.5.1998, which correspond fairly well with description and figure. The inside of the outer lip carries a number of teeth and so reminds one of *Odostomia conoidea* (Brocchi, 1814). There is also a well-developed columellar tooth and the growthlines are practically vertical to very slightly prosocline.

Apart from the type material no other material is known except for the shell figured by DI GERONIMO & PANETTA (1973: 117 pl.1 fig.6) but the identification seems rather doubtful.

*Syrnola fasciata* Jickeli, 1882 (fig.11)

First mentioned from the coast of Libanon by BOGI & KHAIRALLAH (1987: 57, 59 fig.1) and afterwards more fully dealt with by VAN AARTSEN et al. (1989: 70, 74 fig.7) is now known along the coasts of Israel, Libanon and southern Turkey as far west as Kizkalezi (ex G.Lindner).

The species can be recognized easily by its yellow-brown bands which encircle the whorls and by its very well developed columellar tooth, in this respect differing clearly from the similar species *Tiberia minuscula* (Monterosato, 1880). Both species show a few teeth on the inside of the outer lip.

*Anisocyclus nitidissima* (Montagu, 1803) (fig.12) and *Anisocyclus pointeli* (De Folin, 1868) (fig.13)

The principal difference between these two species is found in the presence of fine spiral striations regularly covering all the whorls in *A.nitidissima*. This sculpture as well as the characteristic thickening of the growthlines at the upper suture can be nicely seen in the photograph of FRETTER, GRAHAM & ANDREWS (1986: 631 fig.440). The course of the growthlines cannot be detected very well but they are C-shaped and orthocline to slightly opisthocline. Another figure of this species is given by VAN AARTSEN et al. (1984: 123 fig.243).

In *A.pointeli* (De Folin, 1868) the whorls are totally smooth and the growthlines are prosocline. The whorls are less convex than in *A.nitidissima* but vary from rather convex to rather flat. Specimens with rather flat whorls also have the tendency to show relatively high whorls. A good figure of *A.pointeli* (De Folin, 1868) is given by VAN AARTSEN et al. (1984: 123 fig.244). On the same plate the characteristic protoconch whorls of the genus *Anisocyclus* are figured.

It is to be noted that shells of *A.nitidissima* are usually somewhat more slender than those of *A.pointeli*, but we should keep in mind that MARSHALL (1900: 337) already wrote: «It is remarkable that this species [= *A.nitidissima*], whose extreme slenderness is its most striking feature,

should also possess a broader as well as a more slender relative; the latter, which is hardly more than half the width of the type, sparingly occurs almost everywhere with it, but those from the west of Ireland coasts all belong to the slender form.»

Generally speaking one finds *A.nitidissima* of dimensions 2.0 x 0.5mm at 6 whorls (not counting the embryonic ones) whereas *A.pointeli* is 2.5 x 0.6mm at 6 whorls. Specimens of *A.pointeli* larger than 3.0mm (7 whorls) do occur regularly and I see no reason to give these a special name, as was tentatively suggested by VAN AARTSEN et al. (1984: 51 spec.245).

*Anisocycla striatula* (Jeffreys, 1856) (fig.14)

The species *Eulimella carinata* De Folin, 1870, *Eulimella folini* Fischer in De Folin, 1869 and *Odostomia macilentata* Monterosato, 1878 [= *Odostomia debilis* Mtrs., 1875 non Pease, 1868] have all been terribly confused by many authors and also by GOUGEROT & FEKI (1980).

In the first place it was Monterosato himself (1890: 158) who noted that the species he described or rather indicated as *Odostomia debilis* Monterosato, 1875 and renamed *O.macilentata* because of preoccupation, was in fact identical with *Eulimella folini* Fischer in De Folin, 1869 and added «ex typo». This type is presently missing in the De Folin collection in Paris as indicated by GOUGEROT & FEKI (1981: 42). We thus have to accept Monterosato's opinion therefore without direct proof.

The identification of the species *Odostomia macilentata* Mtrs. could be made by comparison with a shell in the Jeffreys' collection in Washington, USNM 132734, originating from Algiers (ex Joly). This shell is very characteristic and suits the description of *Eulimella folini* by Fischer in De Folin (1869: 149) perfectly. Still there is no absolute proof of the identity of these two taxa.

However, as it turned out, the case became less important as soon as the syntypes of *Eulimella striatula* Jeffreys, 1856 were studied. The type sample BMNH 196470 (=1856.2.18.9) consists of two topfragments of two specimens which can only be identified as belonging to *E.folini* = *E.macilentata*. Although I did not dare to open the vial at least one of the fragments showed the shouldered-turreted form characteristic for this species, which therefore should be named *Anisocycla striatula* (Jeffreys, 1856).

Study of the not well-preserved specimens of *Eulimella carinata* De Folin, 1870 led me to the conclusion that these two fragments belong to a species related to *A.striatula* but without any sign of sculpture. This may be due to wear in this case but well-preserved specimens from West Africa are completely smooth as well.

The species *Eulimella striatula* Jeffreys, 1856 was renamed *Odostomia hyalina* Jeffreys, 1870 because of possible homonymy with *Turbo striatula* Linné, 1758, which is in fact a Turbonilla. The name *O.hyalina* should be considered a superfluous synonym.

### III. Key to the species of *Eulimella*

- |   |  |
|---|--|
| 1.a. Embryonic whorls helicoid (see fig.1),<br>spiral microsculpture present  | 2  |
| b. embryonic whorls planorbid (see fig.2),<br>shell surface mostly smooth   | 4  |
| 2.a. Shells conical, with flat sides  | 3  |
| b. Shells nearly cylindrical, whorls flat<br>or slightly convex   | <i>Eulimella acicula</i><br>(Philippi, 1836)     |
| 3.a. Growthlines flexuous, opisthocline.<br>Distinctly angulated periphery  | <i>Eulimella scillae</i><br>(Scacchi, 1835)      |
| b. Growthlines orthocline, the periphery<br>of the last whorl rounded.<br>[only the lectotype is known]                                     | <i>Eulimella compactilis</i><br>(Jeffreys, 1867) |
| 4.a. Protoconch whorls rather coarse:<br>thickness 0.25-0.30 mm   | 5  |
| b. Protoconch whorls thinner:<br>thickness 0.15-0.20mm  | 6  |
| 5.a. Shell forming a very slender cone,<br>topangle 11-12. A golden-yellow spiral band<br>around the periphery. Growthlines<br>opisthocline | <i>Eulimella unifasciata</i><br>(Forbes, 1844)   |
| b. Shell somewhat less slender, the last<br>whorl proportionally larger.<br>No coloured bands. Growth-<br>lines flexuous and orthocline     | <i>Eulimella cerullii</i><br>(Cossmann, 1915)    |
| 6.a. Shells with fully flat whorls and<br>very fine spiral microsculpture   | <i>Eulimella bogii</i><br>spec.nov.              |
| b. Shells with somewhat convex whorls,<br>fine axial microsculpture and<br>slightly opisthocline growthlines                                | <i>Eulimella cossignanii</i><br>spec.nov.        |
| c. Shells with more or less convex to<br>tumid whorls, smooth shell surface<br>and orthocline to slightly<br>prosocline growthlines.        | <i>Eulimella ventricosa</i><br>(Forbes, 1844)    |

#### *Eulimella acicula* (Philippi, 1836) (fig.15)

Probably the most common species of *Eulimella* in Europe and therefore rather variable. Constant characters are: Helicoid topwhorls with axis at 90° to the main shell axis, spiral microsculpture consisting of regular striae 15-20 $\mu$  apart and clearly prosocline growthlines. The whorls may be convex and clearly separated from one another or flat and nearly continuous as the suture forms only a slight incision.

Of this last type are the shells of *Eulima subcylindrata* Dunker in Weinkauff, 1862. The original sample is present in the Jeffreys' Collection, USNM 132432 containing 9 + 1 specimens. The main label reads «*Odostomia subcylindrica* (Dkr)/Weinkauff»(!). Several other labels with this lot give «*Chemnitzia affinis* Ph», «*E.scillae* Sc.» and *Eulimella acicula* Phi». The relative slenderness of the specimens of this lot varies somewhat, but otherwise no difference with *Eulimella acicula* is noticeable. A lectotype here is chosen with dimensions 4.0 x 1.1mm (8+whorls) and is figured here (fig.16) to prove the synonymy of *E.subcylindrata* (Dunker in Weinkauff 1862) with *E.acicula* (Philippi, 1836).

Several other taxa have been considered to be varieties of *E.acicula* at one time or another.

The species *Parthenia turris* Forbes, 1844 cannot be recognized with any certainty and is therefore considered a nomen dubium.

The species *Parthenia ventricosa* Forbes, 1844 is a species in its own right and dealt with later on.

The species *Eulimella obeliscus* Jeffreys, 1858 is somewhat doubtful.

The two syntypes are poorly preserved but in my opinion belong to *E.ventricosa* (Forbes, 1844). WARÉN (1980: 38) states them to belong to *E.affinis* [no author mentioned] but probably uses that name for *E.ventricosa* following FORBES & HANLEY (1850: 313). The sample BMNH 1911.10.26.30463-30465 s.n. *Eulimella obeliscus*/Palermo consists of perfectly typical *E.acicula*.

According to the types, the species *Eulimella schlumbergeri continentalis* Nordsieck, 1972, *Eulimella curtata* Coen, 1933, *Eulimella flagellum* Coen, 1933 and *Eulimella intersecta* De Folin, 1870 also belong to *Eulimella acicula* (Philippi, 1836).

Monterosato (1884: 98) introduced the superfluous new name *Eulimella commutata* in order to avoid homonymy with *Auricula acicula* Lamarck, 1815, which is, however, not an *Eulimella* but the type species of the genus *Puposyrnola* Cossmann, 1921.

A last name to be discussed here is *Pyramis laevis* Brown, 1827. This species is based on an irre recognizable miniature figure, from which it is even impossible to make out whether the species is a *Pyramidellid* or something totally different. In Brown's second edition (1837: 14, pl.9 figs.51, 52) the same figures are copied, but a description is supplied too. The only recognizable features are the colour viz.white and the convex whorls. JEFFREYS (1848: 349) placed *P.laevis* tentatively as a synonym under *Melania acicula* Philippi, 1836, but with interrogation-mark. FORBES and HANLEY (1850: 313) cite the same reference under *Eulima affinis* Philippi, a name they use for *Eulimella ventricosa* (Forbes). This species has at least ventricose whorls, although I find the identification much too doubtful. Later on JEFFREYS (1867: 173), considering *E.ventricosa* only a variety of *E.acicula*, puts *Pyramis laevis* Brown in its synonymy. This is most probably the basis

for the resurrection of Brown's name by WINCKWORTH (1932: 226 no.154). A number of recent, especially British, authors have followed Winckworth, but I think erroneously. In my opinion *Pyramis laevis* Brown, 1827 should be considered a nomen dubium, never to be used anymore.

The figure in FRETTER, GRAHAM & ANDREWS (1986: 626 fig.436 as *Eulimella laevis* (Brown)) is not very good. A better figure is given by SPADA et al. (1973: 67 pl.5 fig.9) under the erroneous name *Eulimella ventricosa* (Forbes). BIONDI & DI PACO (1982: 276 s.n. *E.turris* and 277 pl.1 fig.8 s.n. *Ebala* cfr.*coarctata*) give two reasonable figures of this species.

### *Eulimella scillae* (Scacchi, 1835) (fig.17)

The recent specimens of this species have been described as *Eulima macandrei* Forbes, 1844, which is the type species of the genus *Eulimella* Forbes & Macandrew, 1846, by monotypy. Identification with *Melania scillae* Scacchi, 1835 was first made by JEFFREYS (1848: 349) and he was followed by FORBES & HANLEY (1850: 309) and almost all later authors. As no type material is available anymore it seems best to follow this identification. The name *Eulima crassula* Jeffreys, 1839 is a nomen nudum but meant to cover this species.

Identity between *E.scillae* (Scacchi, 1835) and the fossil *Tornatella pyramidata* Deshayes, 1835 is not at all sure as has been said above with respect to the genus *Ptycheulimella* Sacco, 1892. DESHAYES (1835: 154 no.208) describes the aperture as follows: «...; l'ouverture qui le termine est oblongue, étroite, arrondie à la base et terminé supérieurement par un angle aigu; la columelle est assez alongée, et elle présente à son extrémité supérieure un seul pli presque transverse, assez gros et obtus.» In my opinion this does not apply to *E.scillae*!

Although KOBELT (1903: 170) mentions the recent occurrence of *Ptycheulimella pyramidata* (Deshayes, 1835) this is based on an erroneous interpretation of MONTEROSATO (1890: 158) and Locard (1892: 137) who use the name in the belief that it is an older synonym of *Melania scillae* Scacchi, 1835.

NORDSIECK (1972: 118) has suggested that *Odostomia concinna* Jeffreys, 1884, a very dubious species from which no type material could be found by WARÉN (1980: 37) is a younger synonym of the fossil *Pt.pyramidata* (Desh., 1835). Without any proof such suggestions should not be made nor accepted!

Good recent representations of this species are given by CARROZZA (1977: 179 pl.2 fig.2) and by FRETTER, GRAHAM & ANDREW (1986: 624 fig.434). D'ANGELO & GARGIULLO (1978: 155) also give a good photograph.

*Eulimella compactilis* (Jeffreys) Sars, 1878 (fig.18)

As already indicated by WARÉN (1980: 37) the syntype USMN 132718 is a typical *Eulimella acicula*. However the other specimen present under this name viz. USNM 132573 with the label «Loffoden Is./Sars - *Odostomia scillae* Scacchi var. *compactilis* Jeffreys» is something different. WARÉN (1980: 1.c.) suggests that this specimen should be taken as lectotype of the species *Eulimella compactilis* (Jeffreys, 1867). As it is certain that Jeffreys saw this shell and agreed with its identification I will follow this suggestion and declare the specimen USNM 132573, which is here again figured (fig.18), to be the lectotype of *Eulimella compactilis* (Jeffreys, 1867). I am not aware of any other specimen although MARSHALL (1900: 335; 1917: 174) records four more specimens from the Porcupine Expeditions which could not be located however.

The lectotype is 4.0 mm, the topwhorls are helicoid with axis about 90° to the main shell axis. The whorls are relatively low and the growthlines are vertical or orthocline. The shell-surface seems smooth but shows a very fine spiral striature viewed through the microscope. This striature is much finer than that in the related species *E. scillae* (Scacchi, 1835) and *Eulimella acicula* (Philippi, 1836).

*Eulimella unifasciata* (Forbes, 1844) (fig.19)

The species *Eulima unifasciata* Forbes, 1844 can be recognized immediately by the presence of a golden-yellow band encircling the whorls just above the periphery. There is also frequently a slight fold on the columella and therefore this species is sometimes placed, erroneously, in the genus *Syrnola* A.Adams, 1860.

The topwhorls are planorbid with their axis at 135° to the shell axis, the growthlines are slightly flexuous and opisthocline and the shell-surface is nearly smooth but shows numerous microscopic axial striae in well preserved specimens.

Because of the very characteristic yellow band which also occurs in *Turbonilla smithi* Verrill, 1880, this last species is almost universally considered as conspecific. Recent research on West African material shows that further study will be necessary before accepting this synonymy.

The samples USNM 132675, 132676, 132677 and 132678, all from Mediterranean origin, confirm the present interpretation of this species.

*Eulimella unifasciata* (Forbes, 1844) has recently been figured by DI GERONIMO & PANETTA (1973: 117 pl.1 fig.5), CARROZZA (1977: 179 pl.2 fig.1) and TERRENI (1981: 65 pl.7 fig.10). It is a species widely distributed throughout the Mediterranean and the Atlantic.

*Eulimella cerullii* (Cossmann, 1915) (fig.20)

This species is more generally known under its original name *Eulimella praelonga* (Jeffreys, 1884). However the original description by Jeffreys as *Odostomia praelonga* is a primary homonym of *Odostomia praelonga* De-shayes, 1861 (plate 16) and was therefore substituted by COSSMANN (1915: 60), who gave it the name *Symnola cerullii*. As remarked before I prefer to place this species in *Eulimella* and not in *Symnola* nor in *Ptycheulimella* where it has been placed by different authors.

The recently found specimens correspond exactly with the samples BMNH 85.11.5.1964-7 and USNM 132236, type lots from the Porcupine expedition.

The species *E.cerullii* shows planorbid topwhorls with their axis at 135° to the main shell-axis. The growthlines are slightly flexuous and orthocline and the shell-surface is smooth. The whorls increase rather rapidly in height and the last occupies therefore a greater percentage of the total height than in most other *Eulimella* species.

Recent figures of this species are given by Carrozza (1977: 179 pl.2 fig.4) and by BRONDI & DI PACO (1982: 277, pl. 1 fig.4). The shell figured by TENEKIDIS (1989: no 76.42) is certainly not this species but looks rather like *Eulimella acicula*.

*Eulimella ventricosa* (Forbes, 1844) (fig.21)

For the interpretation of this species no type material is available anymore. Therefore I based my interpretation on a sample of Mediterranean shells in the British Museum BMNH 1911.10.26.30422-30426 from Palermo with a label in the handwriting of Monterosato. Also taken into account were a number of recent specimens as cited by ZENETOS et al. (1991: 134) from the Aegean Sea, where Forbes' specimens originated too. These specimens are without doubt identical. Also identical are Norwegian specimens like the ones figured by G.O.SARS (1878: 209, pl.11 fig.19) who described the whorls as «...anfractibus usque ad ll tumidulus et aequaliter convexis...». A good figure of this form has been given by VAN AARTSEN et al. (1984: 123 fig.242). The magnificent drawing in FRETTER, GRAHAM & ANDREWS (1986: 628 fig.437) is a representation of this form too. The figure by POPPE & GOTO (1991: 294, pl.38 fig.5) may also represent this species but is not good enough to be recognized with certainty.

In the Atlantic, especially around the British Isles specimens with less convex whorls occur. These specimens are also less slender as can be seen from a sample BMNH 1911.10.26.30427-30446 marked «*Eulimella ventricosa* Forbes = *E.affinis* F.& H./Guernsey 1859» (see fig.22). The shells in this sample are much more like the figure in RODRIGUEZ BABIO & THIRIOT-QUÉVREUX (1974: 542, pl.6 figs B,F) s.n. *Eulimella gracilis* (Jeffreys, 1847). JEFFREYS himself (1848: 350; 1867: 171) regarded this species synonymous



with *Odostomia affinis* (Phil.) Forbes & Hanley, 1850 which he later on (1867: 172) recognized to be not Philippi's species, which is a fossil species of appreciable dimensions 6.5 mm x 1.8 mm and «exacte turrito-conica». Jeffreys therefore uses the name *E.ventricosa* (Forbes) about which he still later (1884:363) remarks that Forbes did not recognize his own species *Parthenia ventricosa* in Jeffreys' *Eulimella gracilis*.

*Eulimella affinis* Philippi, 1844 has been identified with *E.acicula* (Philippi, 1836) by BDD (1883: 187) probably because of its only slightly convex whorls but possibly also because these authors considered *P.ventricosa* a variety of *E.acicula*. The conclusion can only be that Philippi's species cannot be identified at present and should therefore be considered a species dubium.

Knowing the sometimes extreme variability within species of the Pyramidellidae I hesitate very much to regard *Eulimella gracilis* Jeffreys, 1847 as a separate species although specimens of this form can clearly be separated from typical *E.ventricosa* (Forbes, 1844).

In the Mediterranean there occur specimens like the one figured by NORDSIECK (1974: 13 fig.27 s.n *Eulimella phaula*) and the one figured by BIONDI & DI PACO (1982: 277 pl.1 fig.5) which also have less convex whorls. All these specimens, however, have the same planorbid protoconch with axis at 135° to the shell axis, a completely smooth and transparent shell surface and rather thin, more or less convex whorls. The growthlines are orthocone or slightly prosocline.

For the time being my conclusion is that all these specimens should be included in *Eulimella ventricosa* (Forbes, 1844).

Whether the related *Eulimella phaula* (Dautzenberg & Fischer, 1896) from the Azores (fig.23) is also a form of *E.ventricosa* is now under study. The name can certainly not be used for Mediterranean species however.

All authors agree in considering *Eulima turritellata* Requier, 1848 synonymous with *E.ventricosa* and I see no reason to disagree with this generally held identity.

### **Aknowledgement**

This study could not have been made without the indispensable help of many people. I am especially gratefull for the kind cooperation of R.S.Houbrick (USNM), Ms.Kathy Way (BMNH), Ph.Bouchet (MNHN), R.C.Preece (Cambridge), H.Mienis (HUU) and Ms.S.Boyd (NMV) for making available for study the material in the collections in their care.

## NAMES OF SPECIES AND THEIR SYNONYMS.

- acicula*, *Melania*. Philippi, 1836 = *Eulimella acicula* (Philippi, 1836)  
*affinis*, *Eulima*. Philippi, 1844. spec.dubium  
*bogii*, *Eulimella*. Spec.nov. herein  
*carinata*, *Eulimella*. De Folin, 1870. West African. Closely related to *A.striatula* (Jeffreys, 1856)  
*cerullii*, *Syrnola*. Cossmann, 1915 = nom.nov.pro *Odostomia praelonga* Jeffreys, 1884 not *Od.praelonga* Desh., 1861  
*cincta*, *Syrnola*. Fenaux, 1942. Not valid. = ?*Eulimella unifasciata* (Forbes)  
*cingulata*, *Eulimella*. Issel, 1869 not *Turbonilla cingulata* Dunker, 1860. Renamed *Turbonilla isseli* Tryon, 1886  
*commutata*, *Eulimella*. Monterosato, 1884. = nom.nov.pro *Melania acicula* Philippi, 1836 not *Aurricula acicula* Lam., 1815. Superfluous synonym for *Eulimella acicula* (Phil.)  
*compactilis*, *Odostomia*. Jeffreys, 1867. See Warén, 1980: 37.  
*concinna*, *Odostomia*. Jeffreys, 1884. spec.dubium. = *Eulimella pyramidata* (Desh.) [apud Nordsieck 1972: 118]  
*continentalis*, *Eulimella* (*schlumbergeri* n.ssp.). Nordsieck, 1972 = *E.acicula* (Phil.) [ex type in SMF]  
*coSIGNANII*, *Eulimella*. Spec.nov. herein  
*crassa*, *Odostomia*. Jeffreys, 1884 not *O.crassa* Thompson, 1845. Renamed *Syrnola wenzi* Nordsieck, 1972  
*crassula*, *Eulima*. Jeffreys, 1839. nom.nud.but referred to *Eulimella scillae* (Scacchi) by Jeffreys (1847: 311, 1848: 349)  
*curtata*, *Eulimella*. Coen, 1933 = *E.acicula* (Philippi) [ex holotype]  
*debilis*, *Odostomia* (*Eulimella*). Monterosato, 1875 not *O.debilis* Pease, 1868 = nom.nud. Renamed *Odostomia macilenta* Monterosato, 1878  
*digenes*, *Turbonilla*. Dautzenberg & Fischer, 1896 = *Eulimella nana* Locard, 1897 [apud Nordsieck, 1972: 120]. Azores  
*eulimoides*, *Anisocyclus*. Feki, 1969  
*exilissima*, *Eulimella* Mtrs.in Dautzenberg, 1884 = nom.nud.  
*fasseauxi*, *Syrnola* (*Tib.*). Nordsieck, 1972. Not valid  
*fasciata*, *Syrnola solidula* Dunker var. Jickeli, 1882  
*flagellum*, *Eulimella*. Coen, 1933 = *Eulimella acicula* (Philippi) [ex holotype]  
*folini*, *Eulimella*. Fischer in de Folin, 1869 = *Anisocyclus striatula* (Jeffreys)  
*gitaena*, *Turbonilla*. Dautzenberg & Fischer, 1897. Azores  
*gracilis*, *Eulimella*. Jeffreys, 1847 = *Eulima affinis* Philippi sensu Forbes & Hanley, 1850. Spec.dubium  
*gradata*, *Odostomia* (*Eulimella*) (*poineli* var.) Monterosato, 1878 = *Anisocyclus pointeli* (de Folin) var.  
*hyalina*, *Odostomia*. Jeffreys, 1870. Nom.nov. pro *Eulimella striatula* Jeffreys, 1856 not *Turbo striatula* Linné, 1758. Superfluous synonym for *Anisocyclus striatula* (Jeffreys)  
*intermedia*, *Eulimella*. De Folin, 1870 = ?*E.subcylindrata* (Dunker) [apud Monterosato, 1878: 94]  
*intersecta*, *Eulimella* (*acicula* var.). De Folin, 1873 = *Eulimella acicula* (Philippi) var.  
*isseli*, *Turbonilla* (*Cingulina*). Tryon, 1886. Nom. nov. pro *Eulimella cingulata* Issel, 1869 not *T.cingulata* Dunker, 1860 = *Cingulina isseli* (Tryon, 1886)  
*jocosa*, *Oscilla*. Melville, 1904  
*laevis*, *Pyramis*. Brown, 1827. Spec.dubium.  
*levissima*, *Eulimella*. De Folin, 1870. Belongs to *Cima* (Aclididae)  
*macandrei*, *Eulimella*. Forbes, 1844 = *Eulimella scillae* (Scacchi)  
*macella*, *Odostomia*. Brugnone, 1873 = *Syrnola minuta* H.Adams [apud Monterosato, 1874: 267]  
*macilenta*, *Odostomia*. Monterosato, 1878. Nom.nov.pro *Odostomia debilis* Monterosato, 1875 [nom.nud.!] not *Odostomia debilis* Pease, 1868; = *Eulimella folini* Fischer [apud Monterosato, 1890: 158 ex typo]  
*minima*, *Odostomia* (*ventricosa* var.). Monterosato, 1880 = *Eulimella ventricosa* (Forbes) var. Not *O.minima* Jeffreys, 1858  
*minuta*, *Syrnola*. H.Adams, 1869 = *Puposyrnola minuta* (H.Adams, 1869)  
*modesta*, *Dunkeria*. De Folin, 1870 = *Careliopsis modesta* (de Folin, 1870)  
*nana*, *Eulimella*. Locard, 1897 = *E.digenes* (D. & F., 1896) [apud Nordsieck, 1972: 120]

*nisoides*, *Odostomia*. Brugnone, 1873 = *Eulimella nisoides* (Brugnone, 1873). Fossil species. Nofroni (1993: 38) suggests that *O. nisoides* is a junior synonym of *Eulimella scillae* (Scacchi, 1835)

*nitidissima*, *Turbo*. Montagu, 1803 = *Anisocycla nitidissima* (Mont., 1803)

*obeliscus*, *Eulimella*. Jeffreys, 1858 = *Eulimella affinis* (auct?) [apud Warén, 1980: 38] = *E. ventricosa* (Forbes) [ex types]

*phaula*, *Turbonilla*. Dautzenberg & Fischer, 1896. Azores

*pointeli*, *Turbonilla*. de Folin, 1868 = *Anisocycla pointeli* (de Folin, 1868)

*praelonga*, *Odostomia*. Jeffreys, 1884. Not *O. praelonga* Deshayes, 1861. Renamed *Syrnola cerullii* Cossmann

*producta*, *Turbonilla* (Adams) Lovén, 1846 = *Eulimella acicula* (Philippi) [apud Monterosato 1875: 34 spec. 569]

*pura*, *Odostomia* (*nitidissima* var.). Monterosato, 1874 = *Anisocycla pointeli* (de Folin) [apud Monterosato, 1884: 69]

*pyramidata*, *Tornatella*. Deshayes, 1835. Fossil.

*schlumbergeri*, *Turbonilla*. Dautzenberg & Fischer, 1896. Azores

*scillae*, *Melania*. Scacchi, 1835 = *Eulimella scillae* (Scacchi, 1835)

*smithii*, *Turbonilla*. Verrill, 1880 = *Eulimella unifasciata* (Forbes) [apud Jeffreys, 1884: 351]

*striata*, *Eulimella*. De Folin 1870. Related to *A. nitidissima* (Mont., 1803)

*striatula*, *Eulimella*. Jeffreys, 1856 = *Anisocycla striatula* (Jeffreys, 1856) = *E. macilentata* (Mtrs., 1878) = *E. folini* Fischer in De Folin, 1869 [ex type]

*subcylindrata*, *Eulima*. Dunker in Weinkauff, 1862 = *Eulimella acicula* (Philippi) [ex types]

*superflua*, *Odostomia* (*Eulimella*). Monterosato, 1875. Spec. dubium

*tenuis*, *Eulimella*. De Folin, 1870 = *A. pointeli* (de Folin, 1868)

*turgida*, *Odostomia* (*Eulimella*) (*pointeli* var.). Monterosato, 1878 = *Anisocycla pointeli* (de Folin) var. not *O. turgida* Sars, 1878

*turris*, *Partbenia*. Forbes, 1844. Spec. dubium

*turritellata*, *Eulima*. Requin, 1848 = *Eulimella ventricosa* (Forbes) [apud Jeffreys, 1867: 172 and Monterosato, 1878: 95]

*unifasciata*, *Eulima*. Forbes, 1844 = *Eulimella unifasciata* (Forbes, 1844)

*ventricosa*, *Partbenia*. Forbes, 1844 = *Eulimella ventricosa* (Forbes, 1844) = *E. affinis* (Philippi) [apud Monterosato, 1878: 95]

*wenzi*, *Syrnola* (*Tib*). Nordsieck, 1972. Nom. nov. pro *Odostomia crassa* Jeffreys, 1884 not *O. crassa* Thompson, 1845

## REFERENCES

- AARTSEN J.J.VAN, 1977. European Pyramidellidae: I. *Chrysallida*. - *Conchiglie* **13**: 49-64.
- AARTSEN J.J.VAN, 1981. European Pyramidellidae: II. *Turbonilla*. - *Boll. Malac.* **17** (5, 6): 61-88.
- AARTSEN J.J.VAN, 1987. European Pyramidellidae: III. *Odostomia* and *Ondina*. - *Boll. Malac.* **23** (1-4): 1-34.
- AARTSEN J.J.VAN, 1988. Nomenclatural notes, 6. The generic name *Eulimella* (Gastropoda, Opisthobranchia, Pyramidellidae), authorship and type species. - *Basteria* **52** (4-6): 171-174.
- AARTSEN J.J.VAN, A. BARASH & F. CARROZZA, 1989. Addition to the knowledge of the Mediterranean Mollusca of Israel and Sinai. - *Boll. Malac.* **25** (1-4): 63-76.
- AARTSEN J.J.VAN & F. CARROZZA, 1983. Two more Red Sea species recorded for the first time from the Mediterranean Coast of Israel. - *Boll. Malac.* **19** (1-4): 37-40.
- AARTSEN J.J.VAN, H.P.M.G. MENKHORST & E. GITTENBERGER, 1984. The marine Mollusca of the Bay of Algeciras, Spain, with general notes on Mitrella, Marginellidae and Turridae. - *Basteria*, *Suppl.* **2**: 1-135.
- ADAMS A., 1860. On some New Genera and Species of Mollusca from Japan. - *Ann. Mag. nat. Hist.* (3) **5**: 405-413.
- ADAMS A., 1870. On some Genera and Species of Gasteropodous Mollusca collected by Mr. M'Andrews in the Gulf of Suez. - *Ann. Mag. nat. Hist.* (4) **6**: 121-129.
- ANDERSON H.J., 1964. Die mioäne Reinbeck-Stufe in Nord- und Westdeutschland und ihre Mollusken-Fauna. - *Fortschr. Geol. Reinld Westf.* **14**: 31-390.
- ANGELO G. d' & S. GARGIULLO, 1978. Guida conchiglie Mediterranee: 1-224. Milano. (Reprinted 1981).

- BIONDI F. & G. DI PACO, 1982. Molluschi poco conosciuti dell'Archipelago Toscano-Gastropoda. Contributo terzo. - *Boll. Malac.* **17** (11, 12): 271-280 (1981).
- BOGI C., 1987. Su alcuni micromolluschi mediterranei rari o poco noti (Contributo II). - *Boll. Malac.* **23** (5-8): 237-242.
- BOGI C. & N.H. KHAIRALLAH, 1987. Nota su alcuni molluschi di provenienza Indo-pacifica raccolti nella baia di Jounilh (Libano) - Contributo I. - *Notiz. CISMA* **9**(10): 54-60.
- BOYD S.E. & J.U. PHILLIPS, 1985. Molluscan types in the Museum of Victoria. - *Occ. Papers Mus. Victoria* **2**: 37-64.
- BROWN TH., 1837-1845. Illustrations of the Conchology of Great Britain and Ireland. 2nd edition: pp. XIII, 144 + 59 pls. London.
- BUCQUOY E., PH. DAUTZENBERG & G. DOLLFUS, 1882-1886. Les mollusques marins du Roussillon 1: Gastropodes: 1-570. Paris.
- CARROZZA F., 1977. Microdoride di Malacologia Mediterranea. Contributo Quarto. - *Conchiglie* **13**: 175-179.
- COSSMANN M., 1915. Faune malacologica mariana. Parte settima, per S. Cerulli-Irelli. - *Rev. crit. Paléoz.* **19**: 58-60.
- COSSMANN M., 1921. Essais de Paléoconchologie comparée. Paris, **12**: 1-349.
- DALL W.H. & P. BARTSCH, 1904. Synopsis of the genera, subgenera and sections of the family Pyramidellidae. - *Proc. Biol. Soc. Washington* **17**: 1-16.
- DAUTZENBERG PH., 1889. Contribution à la faune malacologique des îles Açores. - *Res. Camp. Sci.* ..Albert Ier **1**: 1-112, pl. 1-4.
- DAUTZENBERG PH. & H. FISCHER, 1896. Dragages effectués par l'Hirondelle et par la Princesse-Alice: 1. Mollusques Gastéropodes. - *Mém. Soc. Zool. France* **9**: 395-498; pl. 15-22.
- DAUTZENBERG PH. & H. FISCHER, 1897. Dragages effectués par l'Hirondelle et par la Princesse-Alice. - *Mém. Soc. Zool. France* **10**: 139-234; pl. 3-7.
- DESHAYES G.P., 1835. Histoire des Mollusques. - Expédition scientifique de Morée 3: Zoologie et Botanique: 81-209, pl. 9. Paris.
- FORBES E. & S. HANLEY, 1848-1853. History of British Mollusca and their shells. [London, van Voorst] Vol. III: 1-320 (1850); 321-616 (1851).
- FRETTER V., A. GRAHAM & E.B. ANDREWS, 1986. The prosobranch Molluscs of Britain and Denmark. Part 9 - Pyramidellacea. *Supplements to J. moll. Studies*, Suppl. 16.
- GERONIMO I. DI & P. PANETTA, 1973. La malacofauna batiale del Golfo di Taranto. - *Conchiglie* **9** (5, 6): 69-122.
- GOUGEROT L. & M. FEKI, 1980. Contribution à la révision du genre *Anisocycla* Monterosato, 1884 (Gastropoda, Pyramidellidae). - *Bull. Soc. Sci. Nat. Tunisie* **13**: 87-96.
- GOUGEROT L. & M. FEKI, 1981. Etude critique des espèces d'*Anisocycla* Monterosato d'appartenance generique certaine, subsistant actuellement. - *Bull. Soc. Sc. Nat. Tunisie* **15**: 25-50.
- JEFFREYS J.G., 1839. A list of the marine Mollusca taken during a few days stay at Oban in Argyllshire, in the autumn of 1838. - *Malac. conch. Mag.* **2**: 23-46.
- JEFFREYS J.G., 1847 (May). Descriptions and notices of British shells. - *Ann. Mag. nat. Hist.* (1) **19**: 309-314.
- JEFFREYS J.G., 1848. On the recent species of *Odostomia*, a genus of gasteropodous mollusks inhabiting the seas of Great Britain and Ireland. - *Ann. Mag. nat. Hist.* (2) **2**: 330-351.
- JEFFREYS J.G., 1867. British conchology 4: 1-486. London.
- KISCH B.S., 1959. La collection des Chemnitzidae du marquis de Folin au Muséum National d'Histoire Naturelle. Description de *Turbonilla* corpulens. Catalogue des espèces publiées par de Folin. *J. Conchyl.*, Paris, **99** (3): 89-112.
- KOBELT W., 1887-1908. Iconographie der Schalentragenden Europäischen Meeresconchylien. Bd. 3: 1-24, pl. 59-62 [1902]; 25-200, pl. 63-78 [1903]; 201-272, pl. 79-84, 86, 87 [1904]; 273-406, pl. 85, 88-98 [1905]. Wiesbaden.
- LOCARD A., 1892. Les coquilles marines des côtes de France: 1-384. Paris.
- MARSHALL J.T., 1900. Additions to «British Conchology». *J. Conch.*, London **9** (11): 332-338.
- MARSHALL J.T., 1917. Additions to «British Conchology» Part VII. *J. Conch.*, London **15**: 168-174.
- MONTEROSATO T.A. DI, 1874. Recherches conchyliologiques effectuées au Cap Santo Vito en Sicile. - *J. Conchyl.*, Paris **22**: 243-282; 359-364.
- MONTEROSATO T.A. DI, 1875. Nuova Rivista delle Conchiglie Mediterranee. - *Atti Accad. Sci. Lett.*, Palermo (2a) **5**: 1-50.
- MONTEROSATO T.A. DI, 1878. Enumerazione e Sinonimia delle Conchiglie Mediterranee. - *Giorn. Sci. nat. econ. Palermo* **13**: 61-115.
- MONTEROSATO T.A. DI, 1884. Nomenclatura generica e specifica di alcune conchiglie Mediterranee: 1-152. Palermo.

- MONTEROSATO T.A.DI, 1890. Conchiglie delle profondità del mare di Palermo. *Naturalista sicil.* **9**: 140-166, 181-191.
- NOFRONI I., 1993. *Odostomia nisoides* Brugnone, 1873, sinonimo juniore di *Eulimella scillae* (Scacchi, 1835) (Heterostrophinae, Pyramidellidae). - Notiz. CISMA **14**: 37-40 for 1992.
- NORDSIECK F., 1972. Die europäischen Meeresschnecken: I-XIII, 1-372. Stuttgart.
- NORDSIECK F., 1974. Molluscs from the continental shelf bottom between Corsica and Sardinia (Bocche di Bonifacio, station K1). - *La Conchiglia* **6** (61): 11-14.
- POPPE G.T. & Y.GOTO, 1991. European Seashells. Vol.1. (Polyplacophora, Caudofoveata, Sole-nogastra, Gastropoda): 1-352. Wiesbaden.
- REHDER H.A., 1946. Additional notes on the dates of publication of Les Fonds de la Mer. - *Proc.mal.Soc.Lond.* **27**: 74, 75.
- RODRIGUEZ BABIO C. & C.THIRIOT-QUIÉVREUX, 1974. Gastéropodes de la Région de Roscoff. Étude particulière de la protoconque. - *Cab.Biol.mar.* **15**: 531-549, pl.1-6.
- SACCO F., 1892. I Molluschi dei terreni terziarii des Piemonte e della Liguria. Parte XI: Eulimidae e Pyramidellidae. Torino 1-100.
- SARS G.O., 1878. Mollusca regionis Arcticae Norvegiae. Bidrag til Kundskaben om Norges Arktiske Fauna 1: I-XIII, 1-466.
- SPADA G., B.SABELLI & V.MORANDI, 1973. Contributo alla conoscenza della malacofauna marina dell'Isola di Lampedusa. - *Conchiglia* **9** (3, 4): 29-67.
- TENEKIDIS N., 1989. Mía silloghi Conchylion apò tis Ellinikès Thalasses: 1-189. Athens.
- TERRENI G., 1981. Molluschi conchiferi del Mare antistante la costa Toscana: 1-102. Livorno.
- THIELE J., 1929-1935. Handbuch der Systematischen Weichtierkunde. Bd 1. Teil 1: 1-376 (1929).
- WARÉN A., 1980. Marine Mollusca described by John Gwyn Jeffreys, with the location of the type material. - *Conch.Soc.Gr.Britain Ireland*, spec.publ.1: 1-60, pl.1-8.
- WENZ W., 1938-1944. Gastropoda I. Allgemeiner Teil und Prosobranchia: I-XII, 1-1639. In: Handbuch der Paläozoologie (O.H.Schindewolf edit.) Bd 6 Berlin. For dates of publication, see Anderson, 1964: 365.
- WINCKWORTH R., 1932. The british marine Mollusca. - *J.Conch.*, London **19**: 211-252.
- WINCKWORTH R., 1941. Les Fonds de la Mer: Dates of Publication. - *Proc.mal.Soc.Lond.* **24**: 149-151.
- ZENETOS A., E.PAPATHANASSIOU & J.J.VAN AARTSEN, 1991. Analysis of Benthic Communities in the Cyclades Plateau (Aegean Sea)... P.S.Z.N. I: Marine Ecology **12**(2): 123-137.

## EXPLANATION OF PLATES

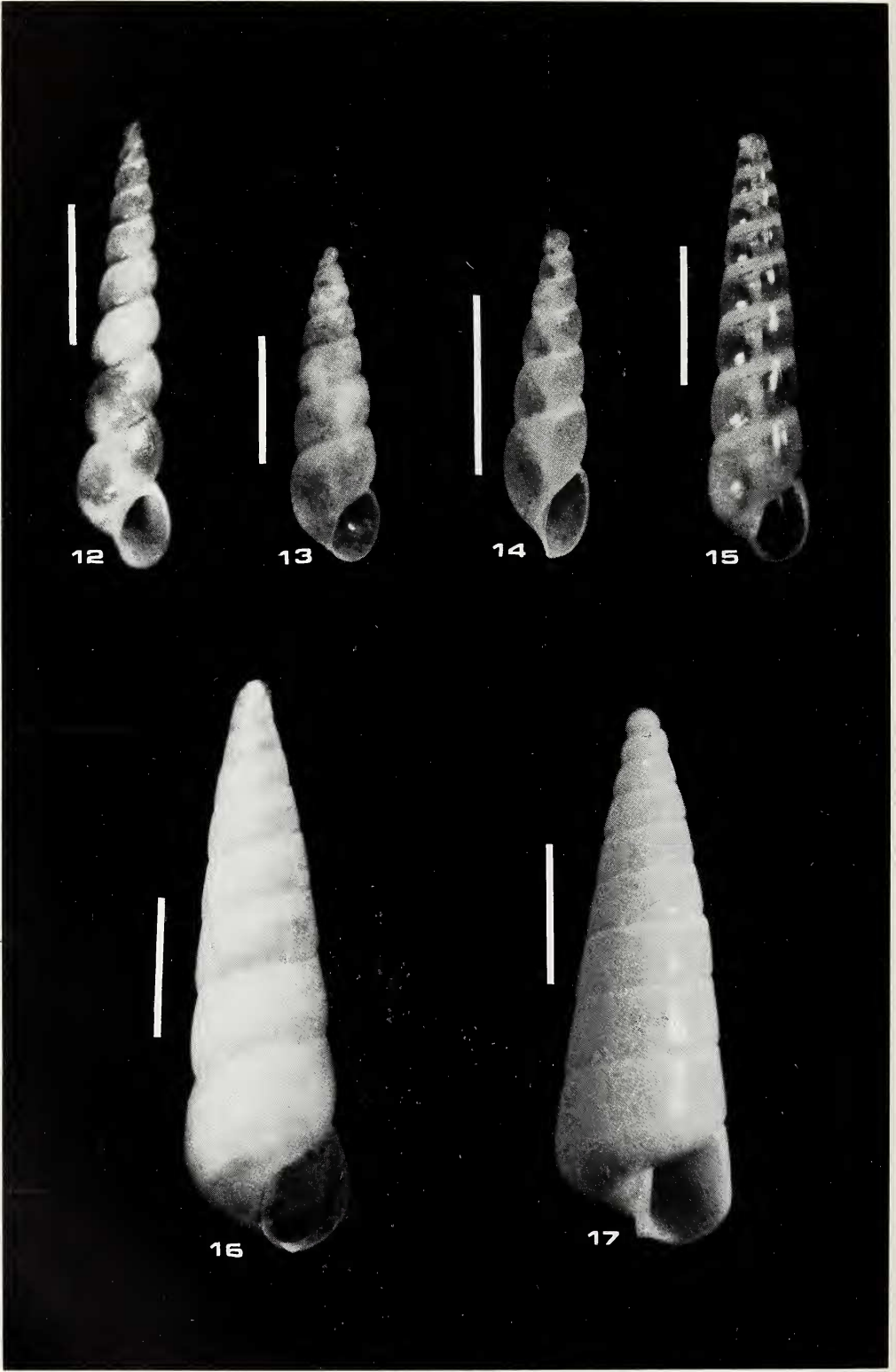
A: Atlantic, M: Mediterranean, R: Indopacific immigrant species.

### Figure

4. *Orina pinguicula* A.Adams, 1870. Cambridge. L: 3.0 mm
- M 5. *Eulimella bogii* spec.nov. Holotype. L: 3.3 mm
- M 6. *Eulimella cossignanii* spec.nov. Holotype. L: 2.3 mm
- R 7. *Cingulina isseli* (Tryon, 1886). AD18134. L: 4.0 mm
- R 8. *Oscilla jocosa* Melvill, 1904. AD19404 L: 2.6 mm
- M 9. *Careliopsis modesta* (De Folin, 1870). AD14357 L: 1.8 mm
- AM 10. *Puposyrnola minuta* (H.Adams, 1869) AD11446 L: 2.8 mm
- R 11. *Syrnola fasciata* Jickeli, 1882. AD13106 L: 3.5 mm
- AM 12. *Anisocyclus nitidissima* (Montagu, 1803). AD20267 L: 3.3 mm
- M 13. *Anisocyclus pointeli* (De Folin, 1868). AD21544 L: 2.5 mm
- M 14. *Anisocyclus striatula* (Jeffreys, 1856). AD9717 L: 1.8 mm
- AM 15. *Eulimella acicula* (Philippi, 1836). AD15175 L: 3.2 mm
16. *Eulima subcylindrata* Dunker in Weinkauff, 1862. Lectotype selected from USNM132432 L: 4.0 mm
- AM 17. *Eulimella scillae* (Scacchi, 1835). AD22102 L: 4.0 mm
- A 18. *Eulimella compactilis* (Jeffreys, 1867). Lectotype USNM132573. L: 4.0 mm
- AM 19. *Eulimella unifasciata* (Forbes, 1844). AD22858 L: 5.5 mm
- AM 20. *Eulimella cerullii* (Cossmann, 1915). AD16010 L: 4.0 mm
- AM 21. *Eulimella ventricosa* (Forbes, 1844). AD22427 L: 3.9 mm
- A 22. *Eulimella «gracilis»* = *Eulimella affinis* Forbes & Hanley, 1850. BMNH1911.10.26.30427-30446. L: 2.3 mm
- A 23. *Eulimella phaula* (Dautzenberg & Fischer, 1896). Azores. Monaco. L: 5.0 mm

- Scale lines = 1 mm









18



19



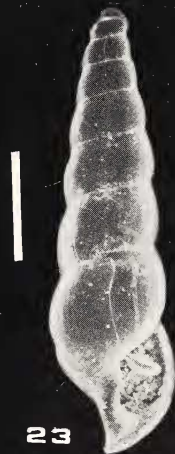
20



21



22



23

